

# **Ton Duc Thang University**

## **Center for Applied Information Technology**



## **Course Lecture**

# **FUNDAMENTALS OF INFORMATICS 2**

Website: [cait.tdtu.edu.vn](http://cait.tdtu.edu.vn)

Facebook: <https://facebook.com/trungtamtinhoc>

- Textbooks:

- Joan Lambert, MOS 2016 Study Guide for Microsoft Excel, 2017.

- References:

- Joan Lambert, MOS 2016 Study Guide for Microsoft PowerPoint, 2017.
- John Wiley, Microsoft Official Academic Course, Microsoft Word core 2016, 2016.

# Ton Duc Thang University

## Chapter 5

# Applying Formulas and Functions



## 5.8 Lookup functions

## 5.9 Rank function



## 5.8 Lookup functions

## 5.9 Rank function

## 5.7- Lookup functions

### - VLOOKUP function

#### + Syntax:

**VLOOKUP**(lookup\_value, table\_array, col\_index\_num, [range\_lookup])

#### + Arguments:

- lookup\_value: The value to look for in the first column of a table.
- table\_array: The table from which to retrieve a value
- col\_index\_num: Column index in the table that has value to return
- range\_lookup: Lookup option (*false*: exact match; *true*: approximate match).

+ **Task**: Looks up a supplied value in the first column of a table, and returns the corresponding value from another column.

## 5.7- Lookup functions

### - VLOOKUP function (cont):

+ *Notice:*

- *The first column on the lookup table is numbered 1. **col\_index\_num** is a column ordering of which contains the return value in the lookup table.*
- *To copy the formula containing lookup functions, you have to apply an absolute reference to the lookup table (**press F4 button**).*
- *In case the lookup option is TRUE, the values in the first column have to be sorted in ascending order.*

## 5.7- Lookup functions

- **Example:** Fill data for the **TÊN SP** and **ĐƠN GIÁ** columns

	A	B	C	D	E	F
4	<b>PHIẾU GIAO NHẬN</b>					
5	<b>MÃ SP</b>	<b>SỐ LƯỢNG</b>	<b>TÊN SP</b>	<b>ĐƠN GIÁ</b>	<b>KHUYẾN MÃI</b>	<b>THÀNH TIỀN</b>
6	XB	19			3	
7	XS	5			1	
8	TL	16			3	
9	XB	12			3	
10	XS	8			1	
11	TL	1			0	
12					<b>Tổng cộng:</b>	<b>?</b>
13						
14	<b>BẢNG TRA CỨU</b>				<b>BẢNG THỐNG KÊ 1</b>	
15	<b>Mã SP</b>	<b>Tên SP</b>	<b>Đơn giá</b>		<b>Mã SP</b>	<b>Tổng Thành Tiền</b>
16	<b>XB</b>	Xà bông LifeBoy	4200		<b>XB</b>	<b>?</b>
17	<b>XS</b>	Súp Knor	1000		<b>XS</b>	<b>?</b>
18	<b>TL</b>	Trà lời	4350		<b>TL</b>	<b>?</b>

Enter formula in cell C6      **=VLOOKUP(A6,\$A\$16:\$C\$18,2,FALSE)**

Enter formula in cell D6      **=VLOOKUP(A6,\$A\$16:\$C\$18,3,FALSE)**



## 5.7- Lookup functions

- Example (cont): Fill data for the **Đơn giá** column

	A	B	C	D	E	F	G	H
7	<b>BẢNG TÍNH TIỀN KHÁCH SẠN</b>							
8	<b>Tên KH</b>	<b>Quốc tịch</b>	<b>Mã Phòng</b>	<b>Ngày đến</b>	<b>Ngày đi</b>	<b>Số ngày ở</b>	<b>Đơn giá</b>	<b>Tiền phòng</b>
9	Kim	Korea	L1A-F1	9/21/2018	9/25/2018	4		
10	Nam	Korea	L1B-F2	9/10/2018	9/15/2018	5		
11	Hùng	Việt Nam	L1C-F1	9/25/2018	9/30/2018	5		
12	Minh	Việt Nam	L2A-F2	9/12/2018	9/20/2018	8		
13	David	Pháp	L1A-F1	9/11/2018	9/15/2018	4		
14	John	Mỹ	L2A-F2	9/16/2018	9/26/2018	10		
15								
16		<b>BẢNG ĐƠN GIÁ</b>						
17		<b>Lầu</b>	<b>Đơn giá</b>					
18		<b>L1</b>	40					
19		<b>L2</b>	35					
20		<b>L3</b>	30					

Enter formula in cell G9      **=VLOOKUP(Left(C9,2),\$B\$18:\$C\$20,2,FALSE)**

## 5.7- Lookup functions

### - HLOOKUP function

+ Syntax:

**HLOOKUP**(lookup\_value, table\_array, row\_index\_num, [range\_lookup])

+ Arguments:

- lookup\_value: The value to look for in the first row of a table.
- table\_array: The table from which to retrieve a value
- row\_index\_num: Row index in the table that has value to return
- range\_lookup: Lookup option (*false*: exact match; *true*: approximate match).

+ **Task**: Looks up a supplied value in the first row of a table, and returns the corresponding value from another row.

## 5.7 - Lookup functions

### - HLOOKUP function (cont):

+ *Notice:*

- *The first row on the lookup table is numbered 1. **row\_index\_num** is a row ordering of which contains the return value in the lookup table.*
- *To copy the formula containing lookup functions, you have to apply an absolute reference to the lookup table (**press F4 button**).*
- *In case the lookup option is TRUE, the values in the first row have to be sorted in ascending order.*

## 5.7- Lookup functions

- **Example:** Fill data for the **Đơn giá** column

	A	B	C	D	E	F	G	H	I
7	<b>BẢNG TÍNH TIỀN KHÁCH SẠN</b>								
8	<b>Tên KH</b>	<b>Quốc tịch</b>	<b>Mã Phòng</b>	<b>Ngày đến</b>	<b>Ngày đi</b>	<b>Số ngày ở</b>	<b>Đơn giá</b>	<b>Tiền phòng</b>	
9	Kim	Korea	L1A-F1	9/21/2018	9/25/2018	4			
10	Nam	Korea	L1B-F2	9/10/2018	9/15/2018	5			
11	Hùng	Việt Nam	L1C-F1	9/25/2018	9/30/2018	5			
12	Minh	Việt Nam	L2A-F2	9/12/2018	9/20/2018	8			
13	David	Pháp	L1A-F1	9/11/2018	9/15/2018	4			
14	John	Mỹ	L2A-F2	9/16/2018	9/26/2018	10			
15									
16	<b>BẢNG ĐƠN GIÁ</b>							<b>BẢNG THỐNG KÊ</b>	
17		<b>Lầu</b>	<b>L1</b>	<b>L2</b>	<b>L3</b>			<b>Loại phòng</b>	<b>TỔNG TIỀN PHÒNG</b>
18		<b>Đơn giá</b>	40	35	30			<b>L1</b>	
19								<b>L2</b>	

Enter formula in cell G9 **=HLOOKUP(Left(C9,2),\$C\$17:\$E\$18,2,FALSE)**



## 5.8 Lookup functions

## 5.9 Rank function

## 5.8- Rank function

### - RANK function:

+ **Syntax:**

**RANK**(number, ref,[order])

+ **Arguments:**

- number: number to rank.
  - ref: data range contains an array of numbers including the number to rank.
  - order: A number specifying how to rank number
    - + 0: ranks number as if ref were a list sorted in descending order.
    - + 1: ranks number as if ref were a list sorted in ascending order..
- + **Task:** Returns the rank of a number in a list of numbers.

## 5.8- Rank function

- Example:

	A	B	C	D	E	F	G	H	I
4	<b>DANH SÁCH THI TUYỂN</b>								
5	<b>MSSV</b>	<b>TÊN THÍ SINH</b>	<b>NGÀY SINH</b>	<b>NHẬP ĐIỂM</b>		<b>LÝ THUYẾT</b>	<b>THỰC HÀNH</b>	<b>ĐTB</b>	<b>Xếp hạng</b>
6				<b>LT</b>	<b>TH</b>				
7	A001	Nguyễn Thái Nga	10/25/2000	45	75	4.5	7.5	6	
8	B001	Trương Ngọc Lan	2/24/2001	4	4.5	4	4.5	4.25	
9	A002	Lý Cẩm Nhi	6/6/1990	56	56	5.6	5.6	5.6	
10	B003	Lưu Thùy Nhi	7/14/1995	7.5	6.5	7.5	6.5	7	
11	B004	Trần Thị Bích Tuyền	12/5/2002	89	80	8.9	8	8.45	
12									

Enter formula in cell I7: **=RANK(H7,\$H\$7:\$H\$11,0)**



## 5.8 Lookup functions

## 5.9 Rank function